



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,100	01/28/2004	William C. Albertson	GP-302869	2181

7590 02/08/2006

CHRISTOPHER DEVRIES  
General Motors Corporation  
Legal Staff, Mail Code 482-C23-B21  
P.O. Box 300  
Detroit, MI 48265-3000

EXAMINER

LEWIS, TISHA D

ART UNIT	PAPER NUMBER
----------	--------------

3681

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/766,100	<b>Applicant(s)</b> ALBERTSON, WILLIAM C.	
	<b>Examiner</b> TISHA D. LEWIS	<b>Art Unit</b> 3681	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-6, 9, 10, 13, 14, 17-21 and 24- 26 is/are rejected.
- 7) ☒ Claim(s) 2,3,7,8,11,12,15,16,22 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 19, 2005 has been entered.

### ***Response to Amendment***

Claims 1-26 are pending in the application.

-The 102(e) rejections of claims 1, 4-6, 8, 9, 13 and 14 are withdrawn due to applicant amending claims 1 and 9 over the prior art of record.

### ***Response to Arguments***

Applicant's arguments filed November 28, 2005 have been fully considered but they are not persuasive.

Applicant's arguments as to the prior art references used in the rejection of claim 17 lacking a variable displacement engine has been considered, but since applicant doesn't recite in the claim as to what the variable displacement refers to in claim 17 (as amended in claims 1 and 9), then the prior art references would still meet that particular limitation due to Katoaka igniting the cylinders at different intervals and Tatara operating the engine between a stop and start mode.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 and 24-26 are rejected under 35 U.S.C. 102(e) as being unpatentable by Kataoka et al ('632). As to claim 17, Kataoka et al discloses a control for an engine of a hybrid vehicle with a DOD engine (2), an electric machine (3) and a battery (5) wherein the engine operates in variable displacement transitions by transitioning from an activated mode to a deactivated mode (stop control), transitions from an deactivated mode to an activated mode (start control) and smoothes disturbances (controls engine vibration) in engine torque during both transitions using the machine (rotating machine opposite rotation of engine).

As to claim 26, Kataoka et al discloses the machine supplying opposite torque to the engine when the engine torque is idle (idle stop, start).

As to claims 24 and 25, Kataoka et al discloses an inverter (column 8, lines 30-32) connected to the machine and battery (5) wherein the battery can be of an lead acid.

Claims 17 and 26 are rejected under 35 U.S.C. 102(e) as being unpatentable by Tatara et al ('877). As to claim 17, Tatara et al discloses a hybrid vehicle having a DOD

engine (2), an electric machine (3), a battery (paragraph 0046), operating the engine in variable displacement transitions by transition engine from activated to deactivated mode (motor cruise mode), transition engine from deactivated to activated mode (engine cruise mode) and smoothes disturbances (control variation in drive power from engine, jolt) during both transitions using the machine to output driving power matching the power of the engine cylinders.

As to claim 26, Tatara et al discloses the machine supplying torque when the engine torque is reduced (deactivation to motor cruise mode).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatara et al in view of Kataoka et al. Tatara et al discloses that a battery is used with the machine, but does not disclose if an inverter is used.

Kataoka et al discloses an inverter (column 8, lines 30-32) connected to the machine and battery (5) wherein the battery can be of an lead acid.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Tatara et al with an inverter in view of Kataoka et al provide direct, alternating current between the machine and battery.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 9, 10, 13, 14, 17-21, 24 and 26 are rejected under 35 U.S.C.

103(a) as being unpatentable over Bhavsar et al ('807) in view of Phillips et al ('705).

Bhavsar et al discloses a variable displacement engine (16) wherein the cylinders can be operated in the activated mode where all cylinders are active or in a deactivated mode where less than all cylinders are active (via 28) wherein a motor (14) controls engine torque to prevent frequent shifting between the modes and provide torque when the engine is less than a desired torque (at starting of engine). But Bhavsar et al does not disclose using the motor to smooth disturbances during the transition in modes.

Phillips et al discloses a inverter (16) connected to a battery (26) and using a motor (22) to control torque disturbances from an engine (20) when all cylinders are to be activated (start of engine).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Bhavsar et al with an engine torque control between transitions in view of Phillips et al since Bhavsar et al already uses the motor torque to control the engine torque to prevent frequent shifting of the transitions and maintaining a smooth vehicle response to driver demand.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhavsar et al in view of Phillips et al as applied to claim 17 above, and further in view of Kataoka et al. Bhavsar et al in view of Phillips et al discloses a battery, but does not disclose what type of battery it is.

Kataoka et al discloses that a lead battery can be used as a power supply source.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the battery of Bhavsar et al in view of Phillips et al as a lead battery in view of Kataoka et al to provide high input to output characteristics at time of actuation of a motor.

#### ***Allowable Subject Matter***

Claims 2, 3, 7, 8, 11, 12, 15, 16, 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **FACSIMILE TRANSMISSION**

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 872-9326 before final and 703-872-9327 after final**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Art Unit: 3681

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 000-0000) on \_\_\_\_\_ (Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_

\_\_\_\_\_

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Sasaki et al ('667), Tabata et al ('674), Gray, Jr. ('098).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TISHA D. LEWIS whose telephone number is 571-272-7093. The examiner can normally be reached on M-Thur 6 AM TO 2:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHARLES A. MARMOR can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tdl  
February 5, 2006

  
TISHA LEWIS  
PRIMARY EXAMINER  
AU 3681 2/5/06